

REMARKS

In the Office Action all claims have been rejected for either being unpatentable over Pawlowski et al. (2004/0002694) in view of Lai (USP 6,210,401) or further in view of Dubnack (USP 6,347,244).

In response to the rejection of claims, Applicant has amended all of the independent claims. Specifically, these claims now require the SHG response (claims 1 and 23) or the return light from anisotropic tissue (claim 12) be used to create an image. Further, these claims require the image be compared with a template for healthy tissue. Through this comparison, the health of the tissue being imaged is determined. Support for these amendments is found in the specification on page 5 at lines 12-27, on page 10 at lines 10-14, on page 11 at lines 22-24, 29-31 and on page 12 at lines 2-25.

Amendments to the claims have been made to improve their readability, to more clearly define the structure of the present invention, and to point out the features which distinguish this invention over the cited art. Claims 1-32 remain pending.

Rejections under 35 U.S.C. § 103

Claims 1-4, 6-10, 12-21, 23-25 and 27-31 have been rejected for being unpatentable over Pawlowski in view of Lai. Claims 5, 11, 22, 26 and 32 have been rejected for being unpatentable over Pawlowski in view of Lai, and further in view of Dubnack.

As used by the present invention, a Second Harmonic Generation (SHG) response results whenever light of a first wavelength is incident on anisotropic tissue in

the fundus (e.g. photoreceptors, the nerve fiber layer and the Henle-fiber layer). This response has a second wavelength. There is no SHG response, however, from isotropic tissue. The importance here is that there is an SHG response from only anisotropic tissue in the fundus (photoreceptors). Further, it happens that the SHG response is affected by the orientation of this anisotropic tissue. Importantly, the orientation of the anisotropic tissue is dependent on the health of the tissue. Thus, healthy tissue and unhealthy tissue give detectably different SHG responses. As a consequence of this phenomenon, a template for an expected response from healthy tissue can be established. The present invention then compares the actual SHG response with this template to determine where unhealthy tissue is located in the fundus.

According to now-amended claims 1, 12 and 23, the present invention requires a system (claim 1), a method (claim 12) and an apparatus (claim 23), all of which require the components or methodology that creates an image using return light from anisotropic tissue (SHG response). These claims also require the image be compared with a template for healthy tissue. They further require this comparison result in a determination of the health of the tissue. None of the cited references, individually or collectively, either teach or suggest such a structure or cooperation of structure.

Pawlowski is concerned with determining the extent of a treatment area, during treatment in the area. Importantly, this reference is not concerned with generating an SHG response. And, for treatment purposes, has no motivation to do so. As for the Lai reference, its concern for an SHG process is directed to conversion efficiency and

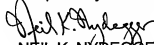
power stability considerations of a crystal (see co. 35, Ins 12-20). Like Pawlowski, Lai has no need for an SHG response that results when a laser beam is incident on anisotropic tissue. Consequently, unlike the present invention, neither reference creates an image with an SHG response. And, neither reference compares this image with a template to determine the health of fundus tissue. Dubnack, alone or in combination with Pawlowski and Lai, does not overcome these differences with the present invention.

With the above in mind, Applicant contends the bases for rejecting claims for being unpatentable have been overcome and should be withdrawn.

In conclusion, Applicant respectfully asserts that claims 1-32 are patentable for the reasons set forth above, and that the application is now in a condition for allowance. Accordingly, an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned at 619-688-1300 for any reason that would advance the instant application to issue.

Dated this 30th day of October, 2007.

Respectfully submitted,


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